

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2001-042127

(43)Date of publication of application : 16.02.2001

(51)Int.Cl.

G02B 5/30
G02F 1/1335
G02F 1/13363

(21)Application number : 11-221395

(71)Applicant : NITTO DENKO CORP

(22)Date of filing : 04.08.1999

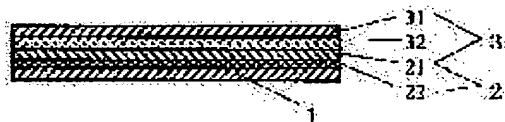
(72)Inventor : YOSHIMI HIROYUKI
OTANI AKIRA
YAMAOKA HISASHI
NISHIKOJI YUICHI

(54) COMPOSITE PHASE DIFFERENCE PLATE, OPTICAL COMPENSATION POLARIZING PLATE AND LIQUID CRYSTAL DISPLAY DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To develop a phase difference plate which can highly compensate the phase difference due to double refractivity of a liquid crystal and which can form a liquid crystal display device having excellent viewing angle and contrast and uniformity of these properties.

SOLUTION: The composite phase difference plate consists of a combination of one or more phase difference films 1 having the main refractive indices n_x , n_y in its plane $n_x \geq n_y$ and the refractive index n_z in the thickness direction satisfying that at least one of the refractive indices is different from others, and a liquid crystal phase sheet 2 produced by forming a liquid crystal polymer layer 22 on a transparent base material 21 having all different aforementioned refractive indices. The combination is selected to that each wavelength dependence of double refractivity in the phase difference film, transparent base material and liquid crystal polymer layer differs from others, and that N_z defined by $N_z = (n_x - n_z) / (n_x - n_y)$ differs between in the phase difference film and in the transparent base material. The phase difference film and the transparent base material consist of films having aligned non-liquid crystalline polymers. The optical compensation polarizing plate is obtained by disposing the composite phase difference plate on one face of an absorption type polarizing plate 3.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or

application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office